CODE ALARM

PROFESSIONAL SERIES

# Remote Start Installation Guide for models:

# ca4054
# ca4554

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4280596

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# BEFORE YOU BEGIN

**FOR AUTOMATIC TRANSMISSION VEHICLES ONLY.**
**PROFESSIONAL INSTALLATION**
**STRONGLY RECOMMENDED**

## *Installation Precautions:*

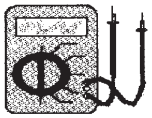
Roll down window to avoid locking keys in vehicle during installation

Avoid mounting components or routing wires near hot surfaces

Avoid mounting components or routing wires near moving parts

Tape or loom wires under hood for protection and appearance

Use grommets when routing wires through metal surfaces



Use a Digital Multi Meter for testing and verifying circuits. DO NOT USE A TEST LIGHT, OR "COMPUTER SAFE PROBE" as these can set off air bags or damage vehicle computers.

**Technical Support (800) 421-3209**
**or go to**
**http://avxtech1.com**

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## 4 Pin Main Harness

| | | | |
|---|---|---|---|
| 4 PIN MAIN | 1 | BLUE/BLACK | START STATUS / ACTIVE OUTPUT ( - ) |
| | 2 | PURPLE/WHITE | TACH INPUT |
| | 3 | GRAY | HOOD PIN INPUT ( - ) |
| | 4 | BROWN/RED | BRAKE INPUT ( + ) |

## 3 Pin Parking Light Harness

| | | | |
|---|---|---|---|
| 3 PIN LIGHTS | 1 | BLACK | GROUND |
| | 2 | WHITE/RED | PARKING LIGHT INPUT |
| | 3 | WHITE | PARKING LIGHT OUTPUT |

## 6 Pin Start Harness

| | | | |
|---|---|---|---|
| 6 PIN START | 1 | PURPLE | STARTER OUTPUT - MOTOR SIDE |
| | 2 | RED | BATTERY 12V ( + ) |
| | 3 | ORANGE | ACCESSORY 1 ( + ) |
| | 4 | PINK/WHITE | IGNITION 2 ( + ) |
| | 5 | RED/WHITE | BATTERY 12V ( + ) |
| | 6 | PINK | IGNITION 1 ( + ) |

## 4 Pin Alternate Output Harness

| | | | |
|---|---|---|---|
| 4 PIN ALTERNATE OUTPUT | 1 | BLACK/YELLOW | PULSE DURING CRANK ( - ) |
| | 2 | GREEN/WHITE | PULSE AFTER SHUTDOWN ( - ) |
| | 3 | LT BLUE | FACTORY ARM / PULSE AFTER START ( - ) |
| | 4 | LT GREEN/BLACK | FACTORY DISARM / PULSE BEFORE START ( - ) |

## 2 Pin Lock Output Harness

| | | | |
|---|---|---|---|
| 2 PIN LOCK | 1 | BLUE | UNLOCK ( - ) |
| | 2 | OPEN | |

# 4 Pin Main Harness

| | | |
|---|---|---|
| 1 | BLUE/BLACK | START STATUS / ACTIVE OUTPUT ( - ) |

This wire provides a ground output when the remote start function is activated and remains until 4 seconds after the remote start is shutdown. If this wire will be used for multiple application's a 1 amp diode is required in-line with the stripe facing the control module.

| | | |
|---|---|---|
| 2 | PURPLE/WHITE | TACH INPUT |

Locate the vehicle's ignition coil or fuel injector in the engine compartment.

*Verification:* Test using the following procedure:

1. Set voltmeter to AC VOLTS.
2. Attach positive lead of a volt meter to a constant 12-volt source.
3. Attach negative lead of a volt meter to the wire to be tested.
4. Start the engine.
5. Have someone press on the gas pedal slightly as you monitor the meter. If connected to the correct wire, the voltage reading will increase as the engine's RPM increases.

Connect the PURPLE/WHITE wire to the negative side of the vehicle ignition coil or fuel injector.

| | | |
|---|---|---|
| 3 | GRAY | HOOD PIN INPUT ( - ) |

Install a Hood Pin Switch and connect to the GRAY wire. This connection is required for Remote Start.

*Verification:* This wire when connected will register ground when the vehicle's hood is opened.

Connect the GRAY wire to the hood pin.

**NOTE:** Be sure to loom the wire, and seal the grommet.

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| | | |
|---|---|---|
| 4 | BROWN/RED | BRAKE INPUT ( + ) |

Locate the vehicle's brake light wire at the brake pedal mounted switch. This connection is required for Remote Start.

*Verification:* This wire registers positive voltage when the brake pedal is pressed.

Connect the BROWN/RED wire to the vehicle's brake light wire.

## 3 Pin Parking Light Harness

| | | |
|---|---|---|
| 1 | BLACK | GROUND |

Connect the BLACK wire to a solid chassis ground point using a ring terminal and self tapping screw (not supplied). Scrape away paint from the grounding point to ensure a good connection. The recommended grounding point is a metal surface in the driver's side kick panel area.

**NOTE:** Do not ground the BLACK wire with any other vehicle components.

| | | |
|---|---|---|
| 2 | WHITE/RED | PARKING LIGHT INPUT |

| | | |
|---|---|---|
| 3 | WHITE | PARKING LIGHT OUTPUT |

Locate the parking light output wire at the vehicle's light switch.

*Verification:* This wire registers positive voltage when the parking lights are turned on.

Positive switching Parking Lights:

Connect the WHITE/RED wire to a 15 Amp max fused battery source.

Connect the WHITE wire to the parking light output wire.

Negative switching Parking Lights:

Connect the WHITE/RED wire to a good chassis ground.

Connect the WHITE wire to the parking light output wire.

# 6 Pin Start Harness

| | | |
|---|---|---|
| 1 | PURPLE | STARTER OUTPUT ( + ) |

Locate the vehicle starter wire.

*Verification:* This wire registers voltage *only* when the key is turned to the START position.

Connect the PURPLE wire to the MOTOR SIDE of the vehicle starter wire.

| | | |
|---|---|---|
| 2 | RED | BATTERY 12V ( + ) |

Locate 1 of the vehicle's constant 12 Volt battery wires at the ignition switch.

*Verification:* This wire will register ( + ) voltage in all positions of the ignition switch.

Connect the RED wire to the constant 12 Volt battery wire.

**NOTE:** Remove all fuses until all connections are made.

| | | |
|---|---|---|
| 3 | ORANGE | ACCESSORY 1 ( + ) |

Locate the vehicle's accessory wire at the ignition switch.

*Verification:* This wire registers voltage when the key is turned to ACC (Accessory) and the ON (or RUN) position. The voltage drops out when the key is turned to the START (or CRANK) position.

Connect the ORANGE wire to the vehicle's accessory wire.

| | | |
|---|---|---|
| 4 | PINK/WHITE | IGNITION 2 ( + ) |

Locate the vehicle's 2nd ignition wire at the ignition switch (if equipped).

*Verification:* This wire registers voltage when the key is turned to the ON (or RUN) position, but not the ACC (Accessory) position. The voltage does not drop out when the key is turned to the START (or CRANK) position.

Connect the PINK/WHITE wire to the vehicle's ignition 2 wire.

**Programmable output:** IGN, ACC, Start.

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| | | |
|---|---|---|
| 5 | RED/WHITE | BATTERY 12V ( + ) |

Locate 1 of the vehicle's constant 12 Volt battery wires at the ignition switch.

*Verification:* This wire will register ( + ) voltage in all positions of the ignition switch.

Connect the RED/WHITE wire to the constant 12 Volt battery wire.

**NOTE:** Remove all fuses until all connections are made.

| | | |
|---|---|---|
| 6 | PINK | IGNITION 1 ( + ) |

Locate the vehicle's ignition wire at the ignition switch.

*Verification:* This wire registers voltage when the key is turned to the ON (or RUN) position. The voltage does not drop out when the key is turned to the START (or CRANK) position.

Connect the PINK wire to the vehicle's Ignition wire.

This wire is also used for Ignition 1 Output.

## 4 Pin Alternate Output Harness

| | | |
|---|---|---|
| 1 | LT GREEN/BLACK | FACTORY DISARM / PULSE BEFORE START ( - ) |

This wire will supply a ( - ) 200mA pulse both upon disarming the system and when the remote start feature is activated. Locate the factory perimeter alarm disarm wire from the key cylinder inside the drivers door.

*Verification:* This wire registers ground if the key is turned to the unlock position in the driver's door cylinder.

This output is configurable in option programming.

| | | |
|---|---|---|
| 2 | LT BLUE | FACTORY ARM / PULSE AFTER START ( - ) |

This wire will supply a ( - ) 200mA pulse upon successful completion of the remote start activation sequence and is typically used to re-lock the vehicle's doors upon remote start if necessary.

This output is configurable in option programming.

| | | |
|---|---|---|
| 3 | GREEN/WHITE | PULSE AFTER SHUTDOWN ( - ) |

This wire will supply a ( - ) 200mA pulse after the remote start shuts down. This is typically used to re-lock the vehicle's doors if they unlock upon remote start shutdown. It can also be used to pulse a door pin-switch wire to prevent the vehicle's accessories from remaining on after remote start shutdown.

This output is configurable in option programming.

| | | |
|---|---|---|
| 4 | BLACK/YELLOW | PULSE DURING CRANK ( - ) |

Locate the vehicle's second starter (crank) wire at the ignition switch. (if equipped)

*Verification:* This wire registers voltage only in the start (crank) position of the ignition switch.

This wire will supply a ( - ) 200mA output and can be configured in option programming.

## 2 Pin Lock Output Harness

| | | |
|---|---|---|
| 1 | BLUE | UNLOCK ( - ) |

The door unlock output wire provides an output only while the remote start feature is active.

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# Additional Ports

## Antenna / LED / Programming Port

Mount the supplied antenna/receiver to a clear spot on the vehicle's windshield that will not block the driver's vision. A good location is usually high on the windshield near the rear view mirror. Be careful not to mount the antenna/receiver on any metallic window film, as this will effect system range. Route the antenna/receiver cable to the control module and plug into the antenna port.

## Data Bus Interface Port

This 4 pin port is used for Flashlogic Door Lock and Transponder Databus Interfaces to communicate with the vehicle's Databus. When using the DBI port to control the Flashlogic Door Lock and Transponder Interface modules the following options may be available. Please refer to the D2D (Data to Data) function list available per vehicle on the tech service web site.

| | |
|---|---|
| Tach Input | Brake Safety Shut Down |
| Trunk/Hatch Open | Diesel Glow Plug Input |
| Door Lock Control | Passlock / Passkey Interface (GM Only) |
| Dome Light Supervision | Transponder Interface Activation |
| Factory Alarm Arm / Disarm | Manual Arm / Disarm Inputs (factory keyless controls system) |

## Telematic Interface Port - CA4554 ONLY

This 4 pin port is used for Telematic Interface accessories, such as Car Connection Pro, which can control some of the following features.

| | |
|---|---|
| Door Unlock Control | Trunk Release |
| Sliding Doors | AUX Output |
| Car Find | Remote Start |

# Set Up & Programming

## Transmitter Programming - Feature Bank 1

1. Turn the ignition ON.
2. Press and hold the valet/override button.
3. Within 10 seconds the parking lights will flash (3) three times.
4. Press 1 button of each transmitter you wish to program.
5. The system will respond with 1 light flash for each accepted transmitter.
6. Pressing the override button at anytime during programming will advance to the next bank.

**NOTE:** The system will exit transmitter programming after 15 seconds of inactivity.

**NOTE:** This system has 1 button programming which programs all channels of the system.

**NOTE:** The system will hold up to 4 transmitters in memory, programming a 5th transmitter will erase the oldest transmitter in memory.

**NOTE:** This system has PTN - Programmed Transmitter Notification. Each time the ignition is turned ON, the LED will flash the number of transmitters programmed to the system.

## Manual Feature Programming - Feature Bank 2 - 5

1. Turn the ignition ON.
2. Press and hold the valet/override button.
3. Within 10 seconds the parking lights will flash (3) three times.
4. Use the valet/override button to advance through each option bank. For feature programming advance to Feature Bank 2, 3, 4 or 5, which is (4) four, (5) five, (6) six and (7) seven parking light flashes.
5. Use the transmitter button to scroll through the selections in each feature bank, the parking lights will flash to match the feature number.
6. Press the BRAKE to change the desired feature. The LED will flash indicating the changed feature.

**NOTE:** The system will remain in feature programming mode as long as the ignition is on, there is no time limit. To exit programming turn the IGNITION OFF.

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| Feature Bank 1 - *3 Flashes*<br>Transmitter Programming |
|---|

Refer to transmitter programming.

| | Feature Bank 2 - *4 Flashes*<br>Security Control | 1 LED Flash | 2 LED Flash | 3 LED Flash | 4 LED Flash | 5 LED Flash | 6 LED Flash |
|---|---|---|---|---|---|---|---|
| 1 | Silent Choice | N/A | | | | | |
| 2 | Passive Locks | N/A | | | | | |
| 3 | Passive Arming | N/A | | | | | |
| 4 | Siren / Horn - Arm/Disarm Chirps | N/A | | | | | |
| 5 | Siren Duration | N/A | | | | | |
| 6 | Security | N/A | | | | | |
| 7 | Anti-Hijack Mode | N/A | | | | | |
| 8 | Orange - Ground w/ Armed Output | N/A | | | | | |
| 9 | DBI Port Protocol | DBI Protocol | ADS Protocol | | | | |

| | Feature Bank 3 - *5 Flashes*<br>Output Control | 1 LED Flash | 2 LED Flash | 3 LED Flash | 4 LED Flash | 5 LED Flash | 6 LED Flash |
|---|---|---|---|---|---|---|---|
| 1 | Extended Lock Pulse | 1 Second | 3.5 Seconds | Double Pulse Unlock | | | |
| 2 | Factory Disarm<br>Lt Green / Black | Factory Disarm | N/A | Factory Disarm / Start Status | Factory Disarm 350mS | Factory Disarm 500mS | |
| | NOTE: On this model the Lt Green / Black Output wire can be configured in Bank 3 or Bank 5. Any changes to this feature in Bank 5 will override changes made in Bank 3. | | | | | | |

| | Feature Bank 4 - *6 Flashes* Remote Start Control | 1 LED Flash | 2 LED Flash | 3 LED Flash | 4 LED Flash | 5 LED Flash | 6 LED Flash |
|---|---|---|---|---|---|---|---|
| 1 | RF Start Chirp | **NA** | | | | | |
| 2 | Run Time | **15 Minutes** | 5 Minutes | 10 Minutes | 20 Minutes | 45 Minutes | 60 Minutes |
| 3 | Running Lights | **Steady** | Flashing | | | | |
| 4 | Tach Mode | **Tach** | Tachless (Crank Average / Voltage) | Hybrid (Crank Average / NO Voltage) | DBI Port | | |
| 5 | Voltage Level | **High** | Low | | | | |
| 6 | Crank Time | **1.0 Seconds** | 0.8 Seconds | 1.5 Seconds | 2.0 Seconds | 4.0 Seconds | |
| 7 | Crank Averaging / Crank Time | **Averaging** | Preset Time | | | | |
| 8 | Gas / Diesel | **Gas** | 10 Second Delay | 15 Second Delay | 20 Second Delay | 45 Second Delay | |
| 9 | Single / Double Press Start | **Double Press** | Single Press | Double Press or 3x Lock from DBI | | | |
| 10 | Ignition 2 Output Pink / White | **Ignition** | Accessory | Start / Crank | | | |
| 11 | 2 or 3 Hour Start | **3 Hour** | 2 Hour | | | | |
| 12 | Turbo Timer | **NA** | | | | | |
| 13 | Transmission Mode | **NA** | | | | | |
| 14 | Temperature Start | **NA** | | | | | |
| 15 | Accessory Output Orange | **Accessory** | Ignition | Start / Crank | | | |

| | Feature Bank 5 - *7 Chirps* 4 Pin Alternate Output Control | 1 LED Flash | 2 LED flash | 3 LED Flash | 4 LED Flash | 5 LED Flash | 6 LED Flash |
|---|---|---|---|---|---|---|---|
| 1 | Lt Green / Black Output | **Pulse Before Start / During Unlock** | Ground While Running | Ignition | Accessory | Pulse During Crank | |
| | **NOTE: On this model the Lt Green / Black Output wire can be configured in Bank 3 or Bank 5. Any changes to this feature in Bank 5 will override changes made in Bank 3.** | | | | | | |
| 2 | Lt Blue Output | **Pulse After Start / During Lock** | Ground While Running | Ignition | Accessory | Pulse During Crank | |
| 3 | Green / White Output | **Pulse After Shutdown** | Ground While Running | Ignition | Accessory | Pulse During Crank | |
| 4 | Black / Yellow Output | **Pulse During Crank** | Ground While Running | Ignition | Accessory | | |

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## Tach Programming

**The unit will not operate unless tach is programmed or tachless option is turned ON**. If an attempt is made to start the vehicle via the remote start without first programming tach, the unit will flash the parking lights 7 times indicating tach has not been learned and stored. If the tach rate is not properly programmed to the specific vehicle, the unit may not realize that the vehicle is running in certain instances and reengage the starter motor.

The Remote Start unit will learn the tach rate of most vehicle's single coil, multiple coil packs, or single injector. To learn tach:

1. Turn the ignition key to the ON position.
2. Press and release the valet/override button 3 times.
3. Immediately turn the ignition key OFF.
4. Press and hold the valet/override button, then start the vehicle using the key.
5. When the unit senses the tach signal, the parking lights will begin to flash.
6. Allow the vehicle to settle to a normal idle speed.
7. Release the valet/program push-button switch. The parking lights will stay on solid indicating that the learned tach signal is stored and the unit has exited tach learn mode.

**NOTE:** If the unit fails to learn tach rate due to an improper tach connection or a poor tach source, the parking lights will not flash. To correct this situation, locate and connect the PURPLE/WHITE wire to the proper tach signal, and then repeat the tach learn routine.

## Smart Tachless Mode

Smart Tachless Mode is available only if a tach signal has never been learned to the system and when activated will automatically change the Tach Mode feature in option programming to Tachless without the need to enter the feature programming mode.

1. Activate the remote start. The parking lights should begin flashing 7 times indicating no tach signal has been learned.
2. Within the 7 flash time period, press and hold the ↻ button.
3. One extended parking light flash (1.5 seconds) will indicate the system is now in tachless mode.

# Feature Descriptions

## Feature Bank 2 - Security

**1 - 8 Not Available.**

**9 - DBI Port Protocol:** Determines the protocol type in which the DBI port uses to interface with external modules.

DBI Protocol

ADS Protocol

## Feature Bank 3 - Output Control

**1 - Extended Lock Pulse:** Controls the timing of the BLUE unlock output wire.

1 Second - Single 1 second unlock pulse.

3.5 Seconds - Single 3.5 second unlock pulse.

Double Pulse Unlock - Double 1 second unlock pulse.

**2 - Factory Disarm - Lt Green/Black Output:** Controls the timing of the LT. GREEN/ BLACK factory disarm wire on the 6 pin output harness only and does not change the output of the factory disarm wire on the 4 pin alternate output harness.

Factory Disarm - Single 1 second pulse with unlock and remote start activation.

N/A - Setting not available on this model.

Start Status - Continuous ( - ) output during the remote start cycle.

Factory Disarm - Single 350mS second pulse with unlock and remote start activation.

Factory Disarm - Single 500mS second pulse with unlock and remote start activation.

**NOTE :** 4 & 5 series product - On this model the Lt Green / Black Output wire can be configured in Bank 3 or Bank 5. Any changes to this feature in Bank 5 will override changes made in Bank 3.

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## Feature Bank 4 - Remote Start Control

**1 - Not Available.**

**2 - Run Time:** Controls the time in minutes that the vehicle will stay running under control of the remote start until the system times out. The system may also be shut down at any time by use of the transmitter or system shutdowns.

**3 - Running Lights:** Controls the WHITE parking light output wire during remote start.

Steady - Parking lights constant during the remote start cycle.

Flashing - Parking lights flash at a slow pace during the remote start cycle.

**4 - Tach Mode:** Determines how the system monitors the engine running during remote start.

Tach - Hard wired directly to the tach wire of the vehicle to monitor AC voltage.

Tachless (Crank Average/Voltage) - Determines crank time by averaging the last 8 times the vehicle was started with the key and then monitors the change in voltage after remote start.

Hybrid (Crank Average / No Voltage) - Determines crank time by averaging the last 8 times the vehicle was started with the key.

DBI Port - Monitors the vehicle's tach rate through an interface module connected to the DBI port.

**5 - Voltage Level:** The voltage variance for remote start when set to tachless. (see tach mode)

HIGH - The variance in battery voltage from before the remote start is activated to after the engine is running must be greater than 0.5 volts.

LOW - The variance in battery voltage from before the remote start is activated to after the engine is running may be less than 0.5 volts.

**6 - Crank Time:** Preset output times for the PURPLE starter wire.

1 Second  0.8 Seconds  1.5 Seconds  2 Seconds  4 Seconds

**7 - Crank Average / Crank Time:** The length of time in which the remote start will crank the vehicle's starter.

Crank Average - Determines crank time by averaging the last 8 times the vehicle was started with the key.

Preset Time - Preset starter output time. (see crank time)

**8 - Gas / Diesel:** Selects engine type and delay time for the starter output wire during remote start activation.

Gas - Gasoline engine, no delay for the starter output wire.

10 Second Delay - Diesel engine, delays the starter output wire for 10 seconds after the ignition has been powered up by the remote start.

15 Second Delay - Diesel engine, delays the starter output wire for 15 seconds after the ignition has been powered up by the remote start.

20 Second Delay - Diesel engine, delays the starter output wire for 20 seconds after the ignition has been powered up by the remote start.

45 Second Delay - Diesel engine, delays the starter output wire for 45 seconds after the ignition has been powered up by the remote start.

**9 - Single / Double Pulse Start:** Switches the remote start activation between a single or double press from the transmitter.

**10 - IGN 2 Output:** Programmable high current output.

Ignition 2 - Ignition output during remote start.

Accessory - Accessory output during remote start.

Start / Crank - Crank output during remote start.

**11 - 2 or 3 Hour Start:** When activated, the remote start will activate and run for the programmed time and shut down every 2 or 3 hours.

**12 - 14 Not Available.**

**15 - Accessory Output:** Programmable high current output.

Accessory - Output becomes active with the same timing as the accessory output, drops out during crank.

Ignition - Output becomes active with the same timing as the ignition output and does not drop out during crank.

Start / Crank - Output becomes active with the same timing as the starter output wire, during crank only.

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## Feature Bank 5 - 4 Pin Alternate Output Control

**1 - Lt Green/Black Output :** Controls the LT GREEN/BLACK output activation type and timing.

Pulse before Start / During Unlock - 1 second pulse when remote start is activated. Also a 1 second pulse when unlock is pressed.

Ground While Running - Continuous output for the entire remote start sequence until after the vehicle shuts down.

Ignition - Output becomes active with the same timing as the ignition output and does not drop out during crank.

Accessory - Output becomes active with the same timing as the accessory output, drops out during crank.

Pulse During Crank - Output becomes active with the same timing as the starter output wire, during crank only.

**2 - Lt Blue Output :** Controls the LT BLUE output activation type and timing.

Pulse After Start / During Lock - 1 second pulse after the remote start sequence and has confirmed the vehicle is running.

Ground While Running - Continuous output for the entire remote start sequence until after the vehicle shuts down.

Ignition - Output becomes active with the same timing as the ignition output and does not drop out during crank.

Accessory - Output becomes active with the same timing as the accessory output, drops out during crank.

Pulse During Crank - Output becomes active with the same timing as the starter output wire, during crank only.

**3 - Green/White Output :** Controls the GREEN/WHITE output activation type and timing.

Pulse After Shutdown - 2 second pulse after the remote start has shutdown.

Ground While Running - Continuous output for the entire remote start sequence until after the vehicle shuts down.

Ignition - Output becomes active with the same timing as the ignition output and does not drop out during crank.

Accessory - Output becomes active with the same timing as the accessory output, drops out during crank.

Pulse During Crank - Output becomes active with the same timing as the starter output wire, during crank only.

**4 - Black/Yellow Output :** Controls the BLACK/YELLOW output activation type and timing.

Pulse During Crank - Output becomes active with the same timing as the starter output wire, during crank only.

Ground While Running - Continuous output for the entire remote start sequence until after the vehicle shuts down.

Ignition - Output becomes active with the same timing as the ignition output and does not drop out during crank.

Accessory - Output becomes active with the same timing as the accessory output, drops out during crank.

## Transmitter Button Functions

| 1 Button Transmitter | Start / Aux | Operation Method |
|---|---|---|
| Unlock | X | Press and Hold - During remote start only |
| Remote Start | X | Press and Release (1 or 2 times depending on selectable option) |
| Remote Start Shut Down | X | Press and Release (1 or 2 times depending on selectable option) |

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## 2 Way Transmitter Notifications - CA4554 ONLY

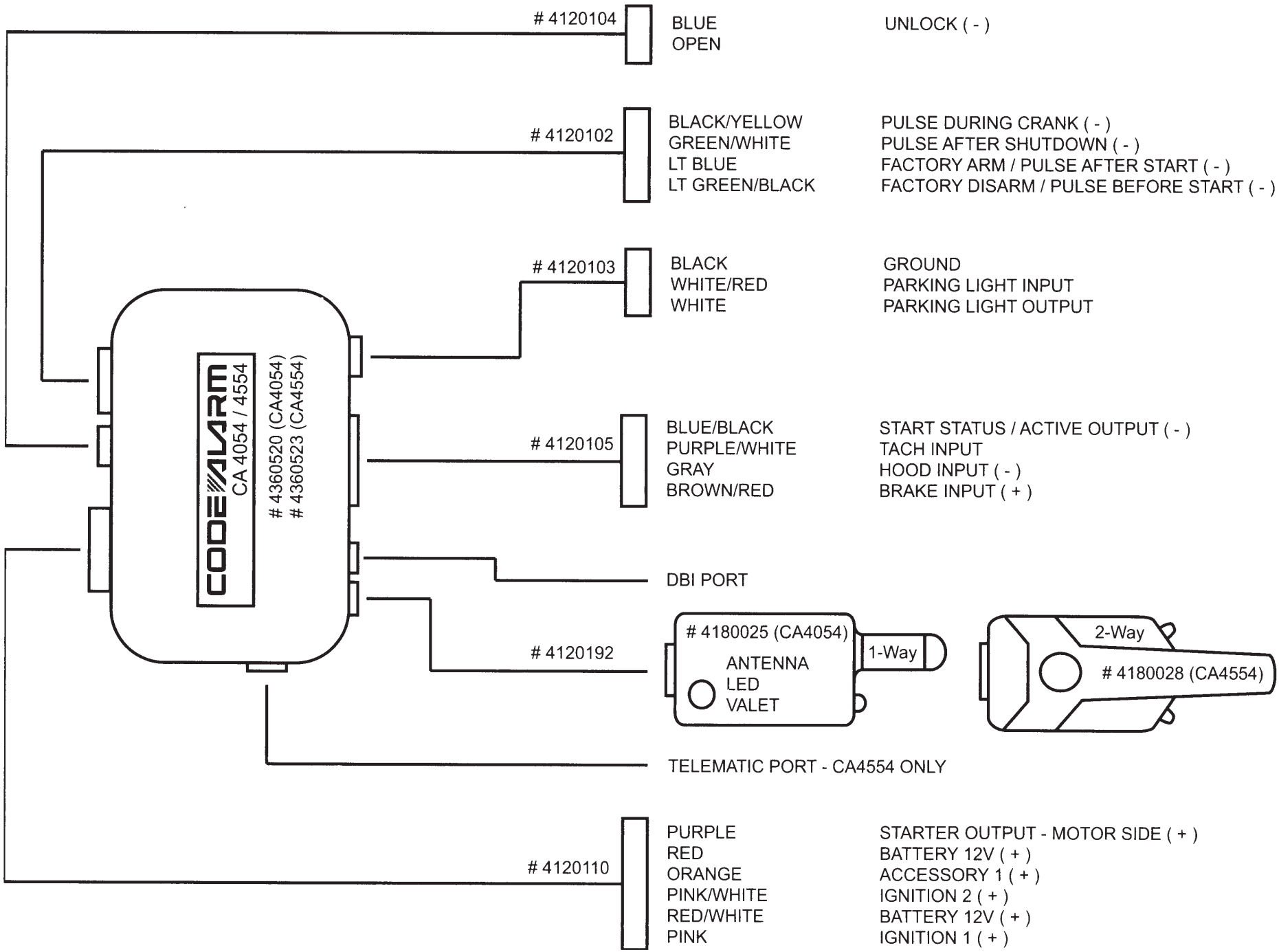
| FUNCTION | BEEPS / LED FLASHES |
|---|---|
| Activation | 1 Beep / Flash |
| Confirm Remote Start | 4 Beeps / Flashes (repeats 3 times) |
| Remote Start Running | 1 Flash per second for duration run time |
| Remote Start Shutdown | 3 Long Beeps / Flashes (repeats 3 times) |
| Low Battery | 2 Beeps / Flashes when button is pressed |

## Remote Start Shutdown Diagnostics

If the remote start shuts down or fails to start, the parking lights will flash one of the patterns below indicating the shutdown input.

To manually enter diagnostics and view the last shutdown, turn the ignition ON and press and hold the ↻ button for 3 seconds.

| LED FLASHES | SHUTDOWN ZONE |
|---|---|
| 3 Flashes | Hood Input<br>Brake Input |
| 4 Flashes | Remote Start Valet Mode |
| 5 Flashes | Manual Transmission Mode not set (manual transmission models only) |
| 7 Flashes | Tach not learned / Crank Average not learned |

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Customer Service 1-800-421-3209

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**FCC COMPLIANCE**

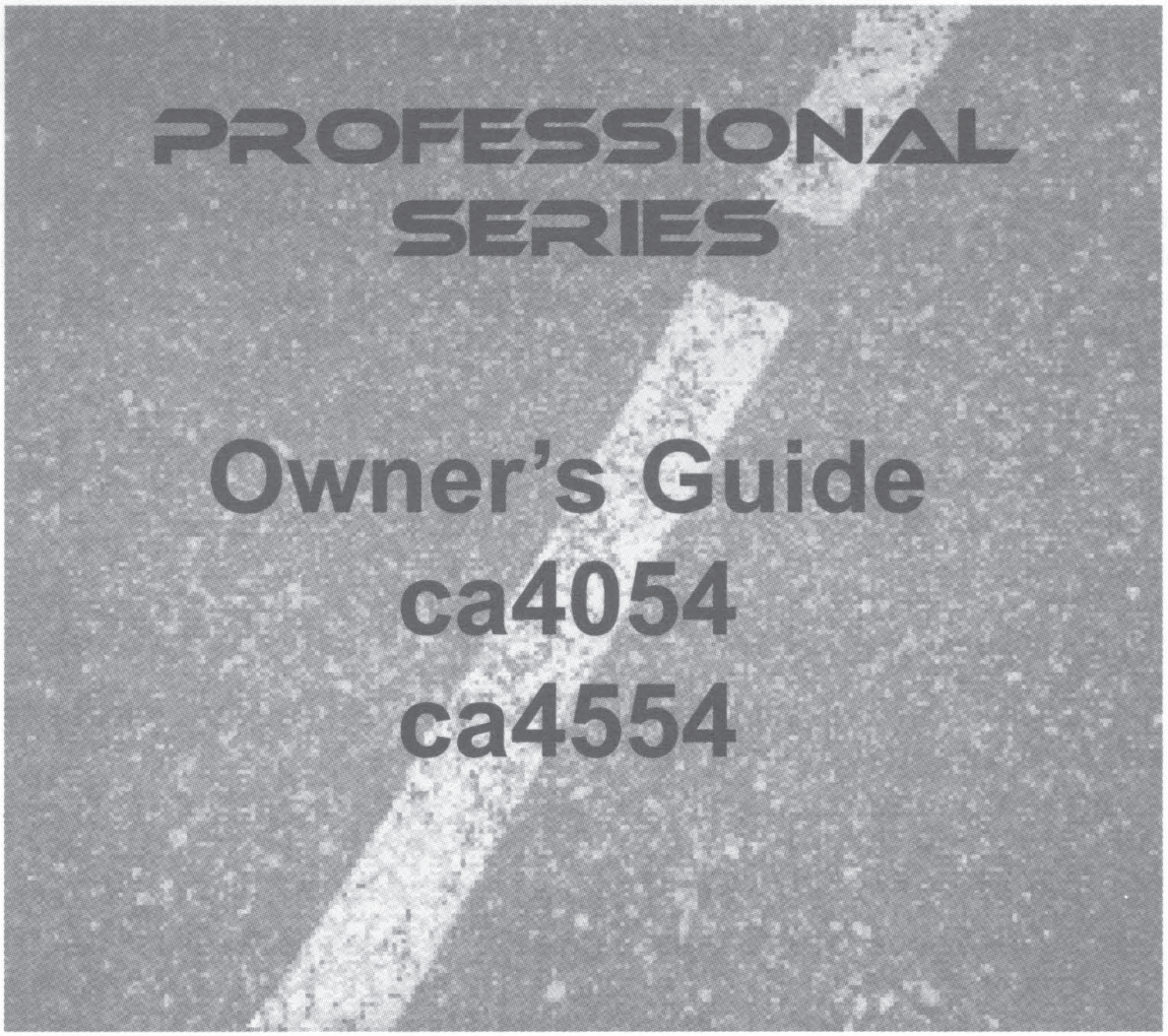
This device complies with Part 15 of the FCC rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including any interference that may cause undesired operation.

**Warning!**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CODE ALARM




## *Remote Start System*

**IMPORTANT NOTE:** The operation of the Security and Convenience System as described in this manual is applicable to most vehicles. However, due to the configuration of some vehicles, some functions AND/OR SAFETY PRECAUTIONS may not apply. Please see your installing dealer for more information.

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# *Using Your Remote Vehicle Starter*

### *Remote Starting Your Vehicle*

The system WILL NOT start the vehicle if any one of the following situations exist:

1. The vehicle's hood is opened.
2. The gear shift selector is not in Park.
3. The brake pedal is depressed.
4. Valet Mode is active.

1. To start the vehicle, press and release the button 2 times within 2 seconds. The vehicle will start and remain running for the pre-programmed 5, 10, 15, 20, 45 or 60 minute run cycle. As a visual indication, the parking lights will flash or remain on depending on the setting by your installation center.

2. When you arrive at the vehicle, turn the ignition key to the ON position (Do not try to restart the vehicle), then step on the brake pedal to disengage the remote start. The vehicle will continue to run, but now on it's own power.

### *Shutting Down the Remote Start*

To shut down the remote start feature from the transmitter press and release the button 2 times within 2 seconds.

### *Unlocking the Vehicle (optional)*

To unlock the vehicle's doors press and hold the button for 3 seconds anytime the vehicle is remote started.

Note: Additional parts and/or labor may be necessary, see your installing dealer for details.

### *Programmed Transmitter Notification*

As a security precaution each time the vehicle's ignition is turn on the status LED light with flash the number of transmitters programmed into the system. This helps to identify unauthorized transmitters from accessing your vehicle. If you believe an unauthorized transmitter has been programmed to your system, contact your installing dealer for assistance.

### *Operating the 2 / 3 Hour Start Up Timer Mode*

The system has the ability to start the vehicle every 2 or 3 hours for a 48 hour period. This feature is especially useful in cold climates where the only means to keep the engine and engine fluids warm is to periodically start the engine. The default setting is 3 hour, selection between 2 or 3 hour is made in option programming.

**WARNING!**

Be certain that the vehicle is outdoors before using this or any remote starting device. A running engine produces dangerous carbon monoxide fumes which can be harmful or fatal if prolonged exposure occurs. DO NOT remote start the vehicle if it is garaged.

**To begin the 2 / 3 hour start up timer mode:**

1. Turn the vehicle's ignition ON then OFF.
2. Press and hold the valet button.
3. Press the ⟲ button 4 times, the system will;
    a. When set for 3 Hour (default) - flash the parking lights 4 times.
    b. When set for 2 Hour - flash the parking lights 2 times.
4. Release the valet button.

**To exit the 2 / 3 hour start up timer mode:**

1. Turn the vehicle's Ignition ON.

    **OR**

1. Activate the remote vehicle start feature using the remote control.

### *Using the "Quick-stop" Feature*

If you want to make a short stop and keep your vehicle running (to keep the interior warm or cool), the quick-stop feature allows you to do this while keeping your vehicle secure and your keys with you.

**To engage quick stop:**

1. Stop the vehicle and place the transmission in PARK.
2. With your foot off the brake pedal, press and release the ⟲ button 2 times within 2 seconds. The LED will flash 3 times to confirm quick stop is entered.
3. Remove the keys from the ignition and exit the vehicle. Lock the vehicle's doors if desired.

**Note:** Do not leave children or animals unattended in the vehicle when using the quick-stop feature.

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### *Valet Mode*

Valet Mode is used to disable the system from remote starting. To enter or exit valet mode simply follow the 4 steps outlined below:

1. Turn the vehicle's ignition ON.
2. Push and hold the programming/valet button.
3. The LED will turn on solid when valet mode is active
4. Release the programming/valet button.

## *Transmitter Button Functions*

| 1 Button Transmitter | Start / Aux | Operation Method |
|---|---|---|
| Unlock | X | Press and Hold - During remote start only |
| Remote Start | X | Press and Release (1 or 2 times depending on selectable option) |
| Remote Start Shut Down | X | Press and Release (1 or 2 times depending on selectable option) |

## *2 Way Transmitter Notifications - ca4554 Only*

| FUNCTION | BEEPS / LED FLASHES |
|---|---|
| Activation | 1 Beep / Flash |
| Confirm Remote Start | 4 Beeps / Flashes (repeats 3 times) |
| Remote Start Running | 1 Flash per 3 seconds for duration run time |
| Remote Start Shutdown | 3 Long Beep / Long Flashes (repeats 3 times) |
| Low Battery | 2 Beeps / Flashes when button is pressed |

# *Replacing Remote Control Batteries*

**1 Way Remote Control, CATX1B:**

The batteries (model CR2016) inside each remote control should last approximately 1 year under normal use. When the batteries become weak you will notice the remote control range (the distance from the vehicle the remote control will work) deteriorate and the small LED on the remote control will dim. To replace the remote control batteries:

1. Unsnap and disassemble the halves of the remote control.
2. Remove the old batteries, observing the +/- symbols on the batteries and replace with new CR2016 batteries.
3. Reassemble the halves of the remote control.
4. Test operation of the remote control.

**2 Way Remote Control, CATX1TW - ca4554 Only:**

The battery (model CR2032) inside each remote control should last approximately 10 months under normal use. When the battery become weak you will notice the remote control range (the distance from the vehicle the remote control will work) deteriorate and the small LED on the remote control will dim. To replace the remote control battery:

1. Remove 3 screws and disassemble the halves of the remote control.
2. Remove the old battery, observing the +/- symbols on the battery and replace with a new CR2032 battery.
3. Reassemble the halves of the remote control and install the 3 screws.
4. Test operation of the remote control.

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CODE ALARM

**Code Systems, Inc. Limited Lifetime Warranty**

Code Systems Inc. ("CODE") warrants to the ORIGINAL PURCHASER of this CODE vehicle security product (the "Product"), purchased from an authorized CODE dealer, that (except as provided below) should this Product under normal use and conditions, be proven defective in material or workmanship DURING THE LIFETIME OF THE VEHICLE IN WHICH IT WAS ORIGINALLY INSTALLED, such defect(s) will be repaired or replaced (at CODE's option) without charge for parts directly related to repairs of the defect(s).

Switches, indicator lights, and transmitter cases are similarly warranted to the original purchaser for a period of one (1) year from the date of purchase of the Product.

CODE accessories, sold separately, are covered by the applicable warranty accompanying the accessory.

This warranty is non-transferable, non-assignable and is voided when: (1) the Product is removed from the vehicle in which it was originally installed; or (2) the vehicle in which the Product was originally installed is transferred to another party.

This warranty does not apply to any product damaged by accident, physical or electrical abuse, improper installation, alteration, or use contrary to its intended function, fire, flood, or other natural acts.

In order for the Product to be repaired or replaced under the terms of this warranty, the defective Product must be returned to an authorized CODE dealer and accompanied by a copy of the retail sales receipt. The date of purchase and year, make and model of the vehicle in which the Product was originally installed must be clearly indicated on the sales receipt.

This warranty is exclusive and CODE MAKES NO OTHER WARRANTIES EXPRESSED OR IMPLIED. ANY IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. IN NO CASE SHALL CODE BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WHATSOEVER.

CODE does not warrant that the Product cannot be compromised or circumvented. THE EXTENT OF CODE'S LIABILITY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT PROVIDED ABOVE AND, IN NO EVENT SHALL CODE'S LIABILITY EXCEED THE PURCHASE PRICE PAID BY THE ORIGINAL PURCHASER OF THE PRODUCT WITHOUT INSTALLATION LABOR.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state

This product is covered by one or more of the following U.S. Patents; Other Patents pending.
D407,034, D580,160, 5,132,660, 5,157,375, 5,193,141, 5,245,694, 5,315,285, 5,334,969
5,349,931, 5,357,560, 5,381,128, 5,412,371, 5,467,070, 5,469,141, 5,469,151, 5,506,568
5,532,670, 5,534,845, 5,563,576, 5,563,600, 5,572,185, 5,602,535, 5,614,883, 5,617,819
5,646,591, 5,650,774, 5,656,868, 5,673,017, 5,656,997, 5,712,638, 5,783,988, 5,783,989
5,798,711, 5,805,056, 5,819,568, 5,828,316, 5,838,255, 5,850,173, 5,850,174, 5,855,050
5,872,519, 5,898,391, 5,900,806, 5,905,431, 5,907,195, 5,914,667, 5,945,936, 5,952,933
5,990,786, 6,028,732, 6,028,505, 6,040,636, 6,043,734, 6,087,996, 6,093,979, 6,140,914
6,184,779, 6,218,740, 6,259,169, 6,285,296, 6,288,635, 6,317,034, 6,452,483, 6,452,484
6,462,648, 6,573,838, 6,697,719, 6,700,479, 6,781,507, 6,828,901, 6,982,631, 7,030,739
7,069,127, 7,095,314, 7,102,515, 7,135,962, 7,142,097, 7,191,053, 7,243,007, 7,248,150
7,332,998, 7,443,285, 7,463,135, 7,483,783, 7,519,400, 7,532,959, 7,616,099, 7,646,285
7,653,463, 7,962,260, 8,380,430.

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Customer Service 1-800-421-3209
WWW.CODE-ALARM.COM

**FCC COMPLIANCE**

This device complies with Part 15 of the FCC rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including any interference that may cause undesired operation.

**Warning!**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

# WARNING

THIS VEHICLE IS EQUIPPED WITH A REMOTE CONTROLLED CAR STARTER

BEFORE SERVICING THIS VEHICLE, REMOVE THE MAIN POWER FUSE (RED WIRE) TO THE CAR STARTER OR DISCONNECT THE VEHICLE BATTERY.

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